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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------|------------------------|
| 10/657,654 | 09/08/2003 | Guo-Qiang Wang | 16074ROUS01U | 2841 |
| 34645 7590 05/08/2007 JOHN C. GORECKI, ESQ. P.O BOX 553 CARLISLE, MA 01741 | | | EXAMINER PHAM, BRENDA H | |
| | | | ART UNIT 2616 | PAPER NUMBER |
| | | | MAIL DATE 05/08/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/657,654

Applicant(s)

WANG, GUO-QUIANG

Examiner

Brenda Pham

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>09/08/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 8-21 are pending in the application.

Specification

2. The disclosure is objected to because of the following informalities: specification page 3, line 5 "line interface units 32" should be corrected to "line interface units 22".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 19 is rejected under 35 U.S.C. 112, second paragraph as being lack of antecedent basis in the claim.

Claim 19 recites the limitation "where the second frames". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

6. Claims 8-10, 18 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Applicant's Admitted Prior Art, hereinafter referred to as AAPA.

Regarding claims 8 and 10, AAPA teach a network device, comprising (see figure 2):

a first line interface unit (**inherently included in Subscriber Premises Equipment 10 for transmission over xDSL**) configured to interface with a first physical medium (xDSL).

Although AAPA does not teach a universal mapper configured to map protocol data units from multiple services onto frames for transmission over the first line interface unit, it is (**inherently included in Subscriber Premises Equipment 10**) for mapping protocol data units from multiple service onto frame.

Alternatively, it is well known that universal mapper such as Generalized Framing Procedure (GFP) engine that can encapsulate different types of packet inputs (e.g., Ethernet, ATM, PPP, Fibre channel) as defined by the GFP standard. I would have been obvious to one skilled in the art to implement GFP in Subscriber Premises Equipment 10 of AAPA to map protocol data (ATM, FR, Ethernet, IP, etc..) onto frames for transmission over the physical medium.

Regarding claim 9, **AAPA** further teach a second line interface unit (**inherently included in Subscriber Premises Equipment 10**) configured to interface with a second physical medium (**T1/E1**); and wherein the universal mapper (GFP) is

configured to map the protocol data units from multiple service (**ATM, FR, Ethernet, IP, voice and Infiniband**) onto frames for transmission over the second line interface unit (**coupled to Subscriber Premises Equipment 10 for transmission over T1/E1**).

Regarding claim 18, **AAPA** further teach wherein the first line interface unit is configured to receive second frames containing second protocol data units, and wherein said universal mapper is further configured to process said second frames.

(NOTE: Examiner does not give patentable weight to “configured to” clauses because such language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation (see claims 8, 9, 10, 11, 12, 13, 14, 18, 20 and 21)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-12, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **AAPA** in view of **Mannam (US 2004/0105459 A1)**.

Regarding claims 11-12, **AAPA** further teach an optical line interface unit (Optical I/F) configured to interface with an optical transmission medium. **AAPA** does not teach switching circuitry configured to interconnect the optical line interface unit with the first line interface unit.

Mannam, in the same field of invention, teach a GFP MPLS switch Fabric configured to switch Generic Framing Procedure (GFP) frames between the optical line interface unit and the first line interface unit.

It would have been obvious to implement a switch between first line interface unit and optical line interface unit to switch frame therebetween.

Regarding claim 20, **Mannan** further teach an optical line interface unit, and wherein the universal mapper is configured to process the frames by causing the frames to be transmitted by the optical line interface unit (see figure 2).

Regarding claim 21, **Mannan** further teach an optical line interface unit, and wherein the universal mapper is configured to process the frames by multiplexing multiple GFP frames into a larger GFP frame and passing the larger GFP frame to the optical line interface unit.

9. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **AAPA** in view of **Kamiya et al (US 2002/0090007 A1)**.

Regarding claim 13, **AAPA** does not teach wherein the GFP frames comprises a core header and a payload, said payload being configured to contain at least one of said protocol data units.

Kamiya et al, in the same field of endeavor, teach the GFP frames.

It would have been obvious to one skilled in the art at the time of the invention was made to generate the GFP frames.

Regarding claim 14, **Kamiya et al** further teach wherein the core header is configured to contain an indication of the length of the payload, wherein the payload is configured to contain a payload header, and wherein the payload header is configured to contain an indication of the type of protocol data unit contained in the payload (see figure 8).

10. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **AAPA** in view of **Kamiya et al (US 2002/0090007 A1)** further in view of **Narvaez et al (US 7,164,860 B1)**.

Regarding claims 15-17, **AAPR in view of Kamiya et al** does not teach a GFP service mapper for each service supported by the network device. This limitation is teach by **Narvaez et al** (see figure 2B).

It would have been obvious to one skilled in the art to implement a GFP service mapper for each service supported by the network device to prevent network congestion and/or load balancing in network device.

Art Unit: 2616

Conclusion

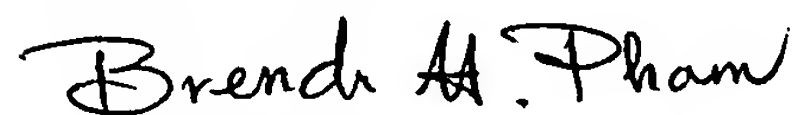
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild, can be reached on (571) 272-2092.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

May 6, 2007

Brenda Pham

A handwritten signature in cursive script that reads "Brenda A. Pham".

**BRENDA PHAM
PRIMARY EXAMINER**